OPERATIONAL CONCERNS:

05/21/92

1. LOI\ Excess Air Concerns

2. Burner Line Fires

   Jim Nelson ~ Memo

   + Inerting / pyrites (clean)

   Inert - fire prevention

   NFPA → Inert every trip ?

   Sweep immediately ?

   • Operation controls press spikes

   • Pulv explosions

3. High Backend End Temperatures w/ + w/o stabilizers

   concerned w/ station htr location

   We've done profiling before + after Outage at benchmark test conditions

   I've not completed calcs over the last 4 test periods, we're trying to get testing completed then find out where we're at.

4. Unit 2 Baghouse Δ P's

   Memo

   high ΔP clean 9-9½ alarm warning @ 9 max should be 12" - blinding

   3.7% O_2 ↑½" cond. clean

5. Poor Unit Heat Rate

   HRIP Screen

   feeder calibrations - corrections

6. Bailey Control System Power Supply Problems

   Upgrade - 6 modules vs 2 present

7. Circulating Water Pump Discharge Valve Positioning

8. Unit 1 Generator Steady Bearing (T13)

9. UNIT 1 OUTAGE Items

IP7_003635

LOI/ EXCESS AIR CONCERNS:

05/21/92

1. Burner/ Flame Stabilizer Installation
    a. Air Flow Balancing

    b. Turndowns

    c. Scanners

    d. Flames darker smoky

    e. Burner Thermocouples

    f. Baseline Testing Status
        1. NOx
        2. flames
        3. All pulverizers available

    g. Feeder Calibrations

    h. Windbox Sec Air Dampers
        1. H Row
        2. LVDT's and cams

    i. Coal Line Restrictors

2. Operational Concerns
    a. Coal Quality
        1. Emergency Stockpile drawdown
        2. SUFCO coal

    b. Eyebrows
        1. SUFCO ash fusion temp (2160 vs 2300+)

    c. O2 Probes/ Controls
        calibration

    d.

    e.

    f. Pulverizer Perf/ Fineness

Need: LOI trends

Doks walkdown during ramps

Load Ramps

LA drops during this period

Sparklers

O2 kickers ?

2. LOI Concerns
    a. Trends with both units

    b. Ash Samples

3. Excess Air Discussion
    a. Costs vs Revenues

    b. Test Plan (coal quality impact or higher O2 vs ~~Maint impact~~)

1 Week: 2 days U1 ↑ / U2 ↓ fly ash samples
2 days U2 ↓ / U1 ↑ coal quality

4. Burner Performance Report and Final Setup

Blending → Operations

Kickers: O_2 ramps

DRAFT

OPERATIONAL CONCERNS:

05/21/92

1. LOI\ Excess Air Concerns

2. Burner Line Fires

3. Unit 1 Generator Steady Bearing (T13)

4. Unit 2 Baghouse Δ P's

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7. UNIT 1 OUTAGE Items

DRAFT

LOI/ EXCESS AIR CONCERNS:

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BENEFITS / COSTS LOI AND FLY ASH SALES

The following are benefits and costs associated with running higher excess air levels.

Benefits:

1. Perf Improvement due to Unburned Carbon decrease (burn less coal)
   Improving UC from 1.0% to 0.5% worth $47,600 (per year per unit)

2. Revenue from Fly Ash Sales
   Typical year 300,000 tons fly ash produced
   1991 Pozzolantic Collected 35,381 tons (paid $69,685 @ 1.97 $/ton)
   Assume tripling of collection 105,000 tons worth $70,000 (per year per unit)

TOTAL ADDITIONAL BENEFIT $ 117,600

Costs:

1. Perf Decline due to decreased boiler efficiency (high dry gas loss)
   Dry Gas Loss due to 0.5 % increase worth $160,000 (per year per unit)

2. Perf Decline due to higher economizer exit gas temp
   10 F increase in EGOT worth $260,000 (per year per unit)

3. Perf Decline due to increased leakage across air heaters
   2% increase in leakage worth $40,000 (per year per unit)

4. Perf Decline due to increased Main Steam Sprays
   3% increase in MStm sprays worth $74,000 (per year per unit)

5. Perf Decline due to increased Reheat Steam Sprays
   1% increase in HRH sprays worth $200,000 (per year per unit)

6. Perf Decline due to increase in Sootblowing Steam usage
   1% increase in Makeup Flow worth $180,000 (per year per unit)

7. Cost due to Horsepower Increase (FD and PA fans)
   increase due to HP worth $160,000 (per year per unit)

TOTAL ADDITIONAL COSTS $ 1,074,000

Additional Impact:

1. Increase Backend Draft (Suction Press Override)
2. Higher Baghouse Δ P's
3. Increase in NOx levels